

What is claimed is:

1. An electro-luminescence device, comprising:

a transparent substrate;

a plurality of pixel areas including a plurality of scanning lines and a plurality of data lines formed on the transparent substrate;

a plurality of pixel electrodes formed on the plurality of pixel areas;

an electro-luminescent layer formed over the plurality of pixel electrodes;

a metal electrode formed on the electro-luminescent layer;

a seal cover plate for sealing the electro-luminescent layer;

a sealant for adhering the seal cover plate to the transparent substrate; and

a heat-exhausting layer formed on the metal electrode.

2. The electro-luminescence device according to claim 1, further comprising:

a protective film formed between the seal cover plate and the heat-exhausting layer.

3. The electro-luminescence device according to claim 2, wherein the protective film has a single-layer structure of a moisture-absorbing layer or a moisture-proof layer, or a multi-layer structure of the moisture-absorbing layer and the moisture-proof layer.

4. The electro-luminescence device according to claim 1, further comprising:

a moisture-absorbing agent provided at the inner side of the seal cover plate opposed to the metal electrode to absorb moisture and oxygen from the electro-luminescent layer.

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5. The electro-luminescence device according to claim 4, further comprising:
 - a semi-transmissive film for preventing the moisture-absorbing agent from being detached from the electro-luminescent layer.
 6. The electro-luminescence device according to claim 4, wherein the moisture-absorbing agent is selected from any one of Eg, BaO, CaO, CaCO₃, zeolite, silicagel and alumina.
 7. The electro-luminescence device according to claim 1, wherein the heat-exhausting layer is formed from a carbon group material.
 8. The electro-luminescence device according to claim 7, wherein the carbon group material is selected from any one of DLC, a-C:H, graphite, a carbon film and a carbon sheet.
 9. The electro-luminescence device according to claim 1, wherein the heat-exhausting layer is formed by any one of a deposition, a coating and a taping.
 10. An electro-luminescence device, comprising:
 - a transparent substrate;
 - a plurality of pixel areas including a plurality of scanning lines and a plurality of data lines formed on the transparent substrate;
 - a plurality of pixel electrodes formed on the plurality of pixel areas;
 - an electro-luminescent layer over the plurality of pixel electrodes;

a metal electrode formed on the electro-luminescent layer;
a seal cover plate for sealing the electro-luminescent layer;
a sealant for adhering the seal cover plate to the transparent substrate; and
a heat-exhausting layer formed on the seal cover plate.

11. The electro-luminescence device according to claim 10, further comprising:

a protective film formed on the metal electrode.

12. The electro-luminescence device according to claim 11, wherein the protective film has a single-layer structure of a moisture-absorbing layer or a moisture-proof layer, or a multi-layer structure of the moisture-absorbing layer and the moisture-proof layer.

13. The electro-luminescence device according to claim 10, further comprising:

a moisture-absorbing agent provided at the inner side of the seal cover plate opposed to the metal electrode to absorb moisture and oxygen from the electro-luminescent layer.

14. The electro-luminescence device according to claim 13, further comprising:

a semi-transmissive film for preventing the moisture-absorbing agent from being detached from the electro-luminescent layer.

15. The electro-luminescence device according to claim 13, wherein the moisture-absorbing agent is selected from any one of Eg, BaO, CaO, CaCO₃, zeolite, silicagel and alumina.

16. The electro-luminescence device according to claim 10, wherein the heat-exhausting layer is formed from a carbon group material.

17. The electro-luminescence device according to claim 16, wherein the carbon group material is selected from any one of DLC, a-C:H, graphite, a carbon film and a carbon sheet.

18. The electro-luminescence device according to claim 10, wherein the heat-exhausting layer is formed by any one of a deposition, a coating and a taping.

19. An electro-luminescence device, comprising:

a transparent substrate;

a plurality of pixel areas including a plurality of scanning lines and a plurality of data lines formed on the transparent substrate;

a plurality of pixel electrodes formed on the plurality of pixel areas;

an electro-luminescent layer over the plurality of pixel electrodes;

a metal electrode formed on the electro-luminescent layer;

a protective film formed on the metal electrode to prevent exposure of the metal electrode; and

a heat-exhausting layer provided on the protective film.

20. The electro-luminescence device according to claim 19, further comprising:

a seal cover plate provided on the heat-exhausting layer to seal the electro-luminescent layer; and

a sealant for adhering the seal cover plate to the transparent substrate.

21. The electro-luminescence device according to claim 20, wherein said heat-exhausting layer is prevents exposure of the protective film.

22. The electro-luminescence device according to claim 19, wherein the protective film has a single-layer structure of a moisture-absorbing layer or a moisture-proof layer, or a multi-layer structure of the moisture-absorbing layer and the moisture-proof layer.

23. The electro-luminescence device according to claim 19, wherein the heat-exhausting layer is formed from a carbon group material.

24. The electro-luminescence device according to claim 23, wherein the carbon group material is selected from any one of DLC, a-C:H, graphite, a carbon film and a carbon sheet.

25. The electro-luminescence device according to claim 19, wherein the heat-exhausting layer is formed by any one of a deposition, a coating and a taping.

26. An electro-luminescence device, comprising:

a transparent substrate;

a plurality of pixel areas including a plurality of scanning lines and a plurality of data lines formed on the transparent substrate;

a plurality of pixel electrodes formed on the plurality of pixel areas;

an electro-luminescent layer over the plurality of pixel electrodes;
a metal electrode formed on the electro-luminescent layer;
a seal cover plate formed in a plane to seal the electro-luminescent layer;
a metal thin film provided on the seal cover plate to smoothly transfer heat; and
a sealant for adhering the seal cover plate and the metal thin film to the transparent substrate, said sealant having a space for injecting an inactive gas.

27. The electro-luminescence device according to claim 26, further comprising:

a moisture-absorbing agent formed at the inner side of the seal cover plate opposed to the metal electrode to absorb moisture and oxygen from the electro-luminescent layer.

28. The electro-luminescence device according to claim 27, further comprising:

a semi-transmissive film for preventing the moisture-absorbing agent from being detached from the electro-luminescent layer.

29. The electro-luminescence device according to claim 28, wherein the moisture-absorbing agent is selected from any one of Eg, BaO, CaO, CaCO₃, zeolite, silicagel and alumina.

30. The electro-luminescence device according to claim 28, wherein the metal thin film is provided between the seal cover plate and the moisture-absorbing agent and adheres to the entire surface of the seal cover plate.

31. The electro-luminescence device according to claim 28, wherein the metal thin film adheres

to a portion of the seal cover plate on which the moisture-absorbing agent is not formed.

32. The electro-luminescence device according to claim 28, wherein the metal thin film adheres to a portion of the seal cover plate on which the moisture-absorbing agent is not formed and the sealant is not attached.

33. The electro-luminescence device according to claim 26, wherein the sealant is made from an ultraviolet-hardening resin.

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